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NEWS 1 Web Page URLs for STN Seminar Schedule - N. America NEWS 2 Dec 17 The CA Lexicon available in the CAPLUS and CA files NEWS 3 Feb 06 Engineering Information Encompass files have new names NEWS 4 Feb 16 TOMLINE no longer being updated NEWS 5 Apr 23 Search Derwent WPINDEX by chemical structure NEWS 6 Apr 23 PRE-1967 REFERENCES NOW SEAFCHABLE IN CAPLUS AND CA NEWS 7 May 07 D3ENE Reload NEWS 8 Jun 10 Fublished patent applications (A1) are new in USPATFULL NEWS 9 JUL 13 New SDI alert frequency now available in Derwent's DWSI and IFCI
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NEWS EMPRESS August 18 CUBRENT WINDOWS VERSION IS V6.5,

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FILE 'HOME' ENTERED AT 14:52:34 ON 16 AUG 20:0

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FILE 'MEDLINE' ENTERED AT 14:53:16 ON 16 AUG 2001

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FILE 'EMBASE' ENTEFED AT 14:53:16 ON 16 AUG 2001

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LI ANSWER 1 OF 5
                                                             DUPLICATE I
                       MEDLINE
ACCESSION NUMBER:
                     2001247527 MEDLINE
21167767 PubMed ID: 11136720
DOWDUMENT NUMBER:
TITLE:
                     An ERG channel inhibitor from the scorpion Buthus eupeus.
                     Korolkova Y V; Kozlov S A; Lipkin A V; Pluzhnikov K A; Hadley J K; Filippov A K; Brown D A; Angelo K; Strobaek D;
AUTHOF.:
                     Jespersen T; Olesen S P; Jensen B S; Grishin E V
                     Snemyakin and Ovchinnikov Institute of Biborganic
CORPORATE SOURCE:
                     Chemistry, Russian Academy of Sciences, 31.
Miklukho-Maklaya, 16/10, 117997, GSP-7, Moscow, Russia..
                     nuly@ibch.ru
                     JOURNAL OF BIOLOGICAL CHEMISTRY, 12001 Mar 30) 276 (13)
SOURCE:
                     3368-76.
                     Journal code: HIV; 2985121R. ISSN: 0021-9258.
                     United States
PUB. COUNTRY:
                     Journal; Artiple; (JOURNAL ARTICLE)
LANGUAGE:
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FILE SEGMENT:
                     Priority Journals
OTHER SOURCE:
                     GENBANK-AF176813
ENTRY MONTH:
                     Entered STN: 20010817
ENTRY DATE:
                      Last Updated in STN: 2001051
                     Entered Medline: 20010510
ΑЗ
     . . . (1996) FEBS Lett. 384, 277-280). Here we report the cloning,
     expression, and selectivity of BeKm-1. A full-length cDNA of 365
     nucleotides encoding the precursor of BeKm-1 was isolated using
     the rapid amplification of cDNA ends polymerase chain reaction technique
     from mRNA. . . amino acid residues. The mature toxin consists of 36
     amino acid residues. BeKm-1 belongs to the family of scorpion venom
     potassium channel blockers and represents a new subgroup
     of these toxins. The recombinant BeKm-1 was produced as a Protein A
fusion.
     product. . . partly inhibited the native M-like current in NG108-15 at
     100 nm. The effect of the recombinant BeEm-1 on different K(+)
     channels was also studied. BeRm-1 inhibited hEFG1 channels
     with an IC(50) of 3.3 nm, but had no effect at 100 nm on hEAG, hSK1,
     hIK, hBE, KONQ1 KONE1, KONQ2/KONQ3, KCNQ4 channels,
     and minimal effect on rELM1. Thus, BeKm-1 was shown to be a now .
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specific blocker of hERG1 potassium channels.

L2 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2001 ACS ACCESSION NUMBER: 2000:742115 CAPLUS

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100:31-255
DU TUMENT NUMBER:
                                                        Cloning of a novel potassium manner protein FCW.
 TITLE:
                                                       gene and its therapeutic uses
                                                       Petrukhin, Konstantin; Taskey, J. In mas; L., Web;
 INVENTOR S :
                                                  Metaker, Michael L.
Merak & Co., Inc., CCA
PCT Int. Appl., doise
PATENT ASSIGNEE S :
 SOURCE:
                                                       Olden: Flam
                                                        i stent
 DUCKENT TYPE:
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                                                      E::3:155
 FAMILY ACT. NUM. TOURT:
           PATENT NO. KIND DATE APPLICATION NO. NAVE
            WG 2000061606 A1 20001019 WG 2000-US9887 1....41. W: CA, CP, US
                     RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MO, MI,
                                                                                         US 1999-129274 P 19990414
 PRIORITY APPLN. INFO.:
 REFERENCE COUNT:
                                                        (1) Mananura; NeuroReport 2000, V11/91, P2063 CAFLOS
 REFERENCE (S):
                                                       (2) Wang; Science 1998, V282, P1890 CAPLUS
           Primers , nucleic acid'
            RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses
                  (DNA, for screening KCNQ4 dene mutation; blocking of novel
              potassium channel protein KCNQ5 dene and its
                  therapeutic uses)
L2 AMSWER 3 OF 1 CAPLUS COPYRISH 1. 1 AUG
ACCESSION NIMBER: 10:8381 6 JAPLUS
COCUMENT NUMBER: 133:145918
                                                     Protein and DNA sequences of a novel potassium
 TITLE:
protein KCNQ4 and the uses thereof in anug screening INVENTOR(S): Centsch, Thomas J.

FATENT ASSIGNEE(S): Neurosearch A/S, Den.

SOURCE:
 channel
 SOURCE:
                                                      FCT Int. Appl., 65 pp.
                                                      CODEN: PIMXD2
 DOCUMENT TYPE:
                                                      Fatent
                                                     Er.glish
 LANGUAGE:
 FAMILY ACC. NUM. COUNT: 1
 FATENT INFORMATION:
            PATENT NO. KIND DATE APPLICATION NO. DATE
           MO 2010044786 A1 21000803 WG 2000-DE24 20 10119

W: AE, AL, AM, AT, AU, AB, BB, BG, BR, BY, TA, CB, TU, TE, TU,
CD, DE, DE, DE, EG, EG, EE, EG, KZ, LC, LE, LE, LE, LE, LU, LU, LE,
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RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AI, HE, CE, CY,
CG, CI, CM, SA, GN, GW, ML, NR, NE, SN, TD, TG
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MC 20000-DE24 20 T0119

WG 20000-DE24 20 T0119

WG 20000-DE24 20 T0119

WG 20000-DE24 20 T0119

AC 10119

AC 10119

WG 20000-DE24 20 T0119

AC 10119

                                                                                         DK 1999-76 A 19990126
DK 1999-693 A 19990519
 PRIOFITY APPLN. INFO.:
 REFERENCE COUNT:
                                                         (1) Biervert, C; Science 1998, V279, P403 CAPLUS
 REFERENCE(S):
                                                        (2) Hong-Sheng, W; Science 1998, V282, P1890 (3) Kubisch, C; Cell 1999, V96(3), P437 CAFLUS
                                                         (6) Univ Utah Res Found; WO 9723598 A 1997 CAPLUS
                                                         (7) Univ Utah Res Found; WO 9921875 A 1999 CAPLUS
                                                         ALL CITATIONS AVAILABLE IN THE RE FORMAT
 ΙT
         Primers (nucleic acid)
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1NA, for streening KCNQ4 meneral at a drive term and a d
        sequences of novel potassium channel protection
      KCNQ4 and uses thereof in drug screening
     Probes nucleic acid)
     RL: ARG (Analytical reagent use ; AMST (Analytical study ; USAC Uses
         for screening KCNQ4 gene mutation; protein and INA sequences
        of novel potassium channel protein KCNQ4
        and uses thereof in drug screening
     223139-55-2 286968-09-0
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     FIGL Biological study); GCCU (Occurrence); USES Uses;
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      potassium channel protein KCNQ4 and uses
        thereof in drud spreening
     286968-66-9, 37: PN: W00044786 PAGE: 26 unclaimed DNA - Unbertain (-., 15:
     PN: W00044786 PAGE: 26 unclaimed DNA | 2:8988-88-1, 3:: EN: W1 | 440-6
FAGE: 26 unclaimed DNA | 288888-88-2, 40: FU: W | 144 -8 DA B: 08
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          - 28€968- 1-5, 41: EN: William de 1430: - e dinivido de 150
286965-11-4,
     42: PM: W00044736 PAGE: 26 unclaimed SNA
     FL: PFF (Properties)
         junclaimed nucleotide sequence; protein and DNA sequences of
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        and the uses thereof in drug screening)
                                                             DUPLICATE 2
    ANSWER 4 OF 5
                        MEDLINE
ACCESSION NUMBER:
                      2000226104
                                    MEDLINE
DOCUMENT NUMBER: 00226104 PubMed II: 10760300
TITLE:
                     RCNQ4, a K+ channel mutated in a form of dominant
deafness,
                      is empressed in the inner ear and the central auditory
                     pathway.
                     Comment in: Proc Natl Acad Sci U S A. 2000 Apr
COMMENT:
                      11;97(8):3786-8
                     Wharkovets T; Hardelin J P; Safieddine S; Schweider M;
AUTHOF:
                      El-Amrabui A; Fetit C; Jentsch T J
                     Dentrum für Molekolare Neurobiologia Hammung, Universität
CORPORATE SOURCE:
                     Hamburg, Martinistrasse 8%, 0-10 L4x Hamburg, Permany. BROCEEDINGS OF THE NATIONAL ACADEMY of White Martinian Forth UNITED STATES OF AMERICA, (2003 Apr 11 20 5 4 123-12. Journal code: PV3; 7505876. ISSN: 0027-8424. Trited States
SOURGE:
PUB. COUNTRY:
                      Journal; Artible; (JOURNAL ARTICLE)
LANGUAGE:
                     English
FILE SEGMENT:
                     Priority Journals
ENTRY MONTH:
                     200005
                     Entered STN: 20000525
ENTRY DATE:
                      Last Updated on STN: 20000525
                      Entered Medline: 20000517
     Mutations in the potassium channel gene KCNQ4
AΒ
     underlie DFNA2, an autosomal dominant form of progressive hearing loss in
     humans. In the mouse cochlea, the transcript has been found exclusively
     the outer hair cells. By using specific antibodies, we now show that
     KCNQ4 is situated at the basal membrane of these sensory cells. In
     the vestibular organs, KCNQ4 is restricted to the type I hair
     cells and the afferent balyx-like herve endings ensheathing these sensing
     calls. Several lines of evidence suggest that KCNQ4 when less
     the I K,n) and g(K,L) currents that have been described in the outer and
     type I hair cells, respectively, and that are already open at resting
     potentials. KCNQ4 is also expressed in neurons of many, but not
     all, nuclei of the central auditory pathway, and is assent from
     mist other brain regions. It is present, e.g., in the sighlear
     nuclei, the nuclei of the lateral lemniscus, and the
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Bl: ABB Analytical respent who walked accept the transfer

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pattern of KCNQ4 in the mouse auditory system raises the
       possibility of a central component in the IFMAL nearms . 88.
 L2 ANSWER 5 OF 5 CAPLUS COPYRIGHT LUCE AN
ACCESSION NUMBER: 1999:10:99 TAPLITY
DOCUMENT NUMBER: 130:2970
TITLE: 80%,4, a new tests
                                MONg4, a never perassing that we expressed the second
                                outer hair deals, is dutated in tourish deathers.
AUTHOR S:
                                Kubisch, Christian; Schrieber, Bolin D., Friedrich,
                               Thomas; Lutjohann, Bjorn; El-Amrada, Ardr. Marlin, Sandrine; Fetat, Christine; Tents m., Indus d. Zentrum fur Molekulare Neurobiologie Hampurg
CORPORATE SOURCE:
                               Universitat Hamburg, Hamburg, D-21246, Germany
SOURCE:
                               | Cell (Cambridge, Mass.) (1999), 96(3), 437-446
                                DODEN: CELLB5; ISSN: 0092-8674
PUBLISHER:
                               Cell Press
DOCUMENT TYPE:
                               Journal
LANGUAGE:
                               English
REFERENCE COUNT:
                               43
PEFERENCE(S):
                               (1) Barhanin, J; Nature 1996, V384, P78 CAPLUS
                               (2) Biervert, C; Science 1998, V279, P403 CAPLUS
                                (3) Charlier, C; Nat Genet 1998, V18, P53 CAPLUS (4) Chouabe, C; EMBO J 1997, V16, P5472 CAPLUS (6) Denoyelle, F; Nature 1998, V393, P319 CAPLUS
                                ALL CITATIONS AVAILABLE IN THE RE FORMAT
      223239-55-2 223239-56-3 223239-57-4 223239-58-1 10.5.39-54-6
223239-60-9 223239-61-0 223239-62-1 223239-63-1 10.5.39-64-2
223239-68-4 223239-66-5 223239-66-5 223239-68-1 223239-68-1
ΙT
      RL: PRP Properties)
          (nucleotide sequence; cDNA and genomic sequences of numar.
       KCNQ4, potassium channel expressed in
          sensory outer hair cells, that is mutated in dominant deafness!
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interior collicatus. This is the first ion channel shown to be

specifically expressed in a sensory pathway. Moreover, the expression

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SEO ID NO. 1

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RESULT
AM032994
           ARC32994
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                                               PAT
                                                         11-322-100
DEFINITION | Sequence | from Patent W00044786.
ACCESSION
           A4032994
VERSION
           A4030994.1 GI:10079897
FEYWORDS
SCUPCE
           numan.
  OPGANISM Homo sapiens
           Sakaryota, Metaboa, Chordata, Craniata, Verterrata, Esteleistubi,
           Mammalia, Eitheria, Primates, Jatarrhini, Hominidae, Home.
REFERENCE
           1 bases 1 to 2335
           Jentsch, T J.
 AUTHORS
 TITLE
           Novel potassium channels and genes encoding these potassium
           channels
           Patent: WD 0044786-A 1 03-AUG-2000;
 JOURNAL
           NEUROSEARIH AS 'DK)
FEATURES
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Ξb	1381	GATGGGGATGAAAGACGGCATCCGCATGGGCAGCTCCCAGCGGGGGGGG	1441
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dC	15€1	ATCFCFGASACTCAAACCCCGCACCTCTGCTGAGGATGCCCCCTCAGAGGAAGTAGCAGA	ic
27	1621	ggayaagayctaccaytgtgagctcacgytyyacgacatcatycctyctytgaayacayt	1680
2b	1621	GSAGAGAGCTACCAGTGTGAGCTCACGGTGGACGACATCATGCCTGCTGTGAAGACAGT	1680
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D/b	1801	GGGCCGGATCAAGAGCCTGCAAACTCGGGTGGACCAAATTGTGGGTCGGGGCCCGGGGA	1860
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ΣŁ	1861	CAGBAAGGCCCGGGAGAAGGGCGGACAAGGGGGCCCCCCGACGCGGAGGCGAGACGCGAAAC	170.
7 2.	1921	<pre>cageatgatjggaegegtggteaaggtggagaagatgeagtgeag</pre>	198.
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Ιb	2281	AGAGAGACCACACGCAGTATTGAGCTGCCTGAGTGGGCGTGGTACCTGCTGTGGG 2335	

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            1 (bases 1 to 2335)
  AUTHORS
            Kubisch,C., Schroeder,B.C., Friedrich,T., Lutjohann,B.,
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   TITLE
            FCNQ4, a novel potassium channel expressed in sensory outer hair
            cells, is mutated in dominant deafness
            Cell 96 (3), 437-446 (1999)
   JOURNAL
  MEDLINE
            99148276
 P.EFERENCE
            2 (bases 1 to 2335)
            Kubisch, C., Schroeder, B.C., Friedrich, T., Luetjohann, B. and
  AUTHORS
            Jentsch, T.J.
  TITLE
            Direct Submission
            Submitted (10-NOV-1998) Zentrum füer Molekulare Neuropiologie
   JOURNAL
            Hamburg (ZMNH), University of Hamburg, Martinistrasse 8t, Handland
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RESULT
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 ΞΞ
             - HCNQ4 Potassium channel gene.
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 1137
             KCNQ4; potassium channel; cardiac arrhythmia; nechatal epilepsy;
              deafness; probes; treatment; therapy; transgenic animal; antibidy;
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 F_{i}A_{i}
              agonist; antagonist; tinnitus; hearing loss; nechatal deafness;
             presbyacusis; affective disorder, Alzheimer's disease; anxiety;
 EW
               ataxia; cognitive deficits; compulsive behavior; dementia;
 EW
               depression; Huntington's disease; mania; memory impairment;
EX
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EW
              Pick's disease; psychosis; schizophrenia; spinal cord damage;
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FΤ
             Nucleic acids encoding the novel KCNQ4 potassium channel subunit,
FΤ
              useful e.g. for treating tinnitus, deafness, Alzheimer's and
FT
              Parkinson's diseases
X \Sigma
             Claim 1; Page 43-48; 65pp; English.
FS
XX
             Mutations in 3 known genes of the KCNQ branch of the potassium
CC
CC
              channel gene family underlie inherited cardiac arrhythmia's, neonatal
             epilepsy and in some cases associated with deafness. FCN24 has been
             mapped to the DFNA2 locus for autosomal dominant hearing liss, and
00
             a dominant negative KCNQ4 mutation that causes deafness in a DENAL
             pedigree has been identified. MCNQ4 is the first putassium manner
              gene underlying non-syndromic deafness. KONQ4 forms heterometric
             channels with other KCNQ channel subunits, especially KCNQ3.
             Nucleotides encoding the KCNQ4 protein and the protein itself may n_{\pi}
             used in the prevention, treatment and diagnosis of diseases
СC
             associated with inappropriate KCNQ4 expression. The nucleotides may
             also be used as DNA probes in diagnostic assays (e.g. polymerase % \left( 1\right) =\left( 1\right) +\left( 1\right) +\left
CO
             chain reactions (PCR)) to detect and quantitate the presence of
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             similar nucleic acid sequences in samples and to identify mutations
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             within them, and hence which patients may be in need of restorative
CC
             therapy. They may also be used to study the expression and function
            cf \ensuremath{\mathsf{KCNQ4}} polypeptides and their role in metabolism, for example
             through the production of transgenic animals. The KCNQ4 polypeptides
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may be used as antigens in the priduction of antibudes and \dot{\gamma}
           identify modulators agonists and antadinists of FUNL4 explassion
           and activity. The anti-KONQ4 antibodies and FONQ4 antagonists may
           also be used to down regulate KCNQ4 empression and activity. They may
          be used in this way to treat tinnitus, loss of hearing especially
          progressive hearing loss, neonatal deafness and presbyacusis
           (deafness of the elderly), and disease or adverse conditions of the
          dentral nervous system (CNS) such as affective disorder, Alcheimer's
          disease, anxiety, ataxia, CNS damage caused by trauma, stroke or
          neurodegenerative illness, cognitive deficits, compulsive behavior,
          dementia, depression, Huntington's disease, mania, memory impairment,
          memory disorders and dysfunctions, motion disorders, motor disorders,
          neurodegenerative diseases, Parkinson's disease, Parkinson-like motor
          disorders, phobias, Pick's disease, psychosis, schizophrenia, spinal
          cord damage, stroke and/or tremor. Conversely, antisense nucleic acid
          molecules may be administered to down regulate KCNQ4 expression by
          binding with the cells own KCNQ4 genes and preventing their
          empression.
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1741 gogacogtacgacgtgaaggacgtcattuaguautactcaquaguna etiga manint (--
17
Ξb
    1741 gogacogtacgacgtgaaggacgtcattgagcastactcagcassccascctssacatsht [f.]
    1801 gggccggatcaagagcctgcaaactcgggtggaccaaattgtgggtcgggggcccgggga léel
Qу
    1801 gggccggatcaagagcctgcaaactcgggtggaccaaattgtgggtcgggggcccgggga [86]
Ξb
    1861 baggaaggooogggagaagggogabaaggggcootoogabgoggaggtggtggatgaaat 1911
2.
         Electric technique et la telepropario de la color
Ξb
    1861 baggaaggoobgggagaagggogabaaggggbobbbbggabgbggaggtggbatgaaat 1921
QУ
    1921 cagcatgatgggacgcgtggtcaaggtggagaagcaggtgcagtccatcgagcacaagct 1980
    1921\ cagcatgatgggacgcgtggtcaaggtggagaagcaggtgcagtccatcgaqcacaagct\ \texttt{left}
DЪ
ੂੰ ;
    1981 ggadotgotgttgggottotattogogotgodtudgot htggdacon nggonagonn hu 👵 🧓
        E. H. Length and D. L. Thorn
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    1981 ggadotgotgttgggdottetatteged stigest segstistgd sæset sagistera
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ho_{3} s
27
    2041 byrogtgraagtypogotgttogacoprigadar/sacotrogacitabra/agic (turisa)....
Db
    2041 ogcogtgcaagtgccgctgttcgaccccgacatcacctccgactaccacagccctgtgga [1].
Qν
    2101 ccacgaggacatotocgtotocgcacagacgotoagcatotoccgctoggtoagcaccaa liel
        2101 ccacgaggacatotocgtotocgcacagacgotcagcatotoccgctcqqtbagcascaa []{}
Οb
Qу
    2161 catggactgagggacttctcagaggcagggcagcacacggccagcccqcqqcctqqcqc 2120
        Db
    2161 catggactgagggactteteagaggcagggcagcacaeggecageceegeggcetggege 2220
    Qy
        Ιb
Qy
    2281 agagagaccacacgcagtattgagctgcctgagtgggcgtggtacctgctgtggg 2335
        Db
    2281\ agagagaccacacgcagtattgagctgcctgagtgggcgtggtacctgctgtggg\ 2335
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SEQ ID NO. 2

```
FESULT 1
AAB01476
ID
    AAB01476 standard; Protein; 695 AA.
\Sigma X
AC
     AABC1476;
XX
     08-NOV-2000 (first entry)
\Gamma \cdot T
\Sigma X
ΓÆ
     KCNQ4 Potassium channel protein.
\Sigma X
FW
     KCNQ4; potassium channel; cardiac arrhythmia; neonatal epilepsy;
     deafness; probes; treatment; therapy; transgenic animal; antibody;
FW
F.M.
     agonist; antagonist; tinnitus; hearing loss; neonatal deafness;
     presbyacusis; affective disorder, Alzheimer's disease; anxiety;
FW
I.M.
     ataxia; cognitive deficits; compulsive behavior; dementia;
FW
     depression; Huntington's disease; mania; memory impairment;
I.M.
     motor disorders; neurodegenerative disease; Parkinson's disease;
FW
     Pick's disease; psychosis; schizophrenia; spinal cord damage;
FW
     stroke; tremor.
\Sigma \Sigma
18
     Homo sapiens.
\Sigma\Sigma
EN
     W0200044786-A1.
\Sigma\Sigma
     03-AUG-2000.
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3.31
     1 -- MANEL ( ) F . . . W. -1 F . . . 04.
PR
     16-JAN-1999;
                  990K-00000T6.
PF
     19-MAY-1999/
                    990840000693.
XX
PΑ
     NEUR- NEUROSEARCH AS.
XX
     Jentsch TJ;
FΙ
\mathcal{M}
12.
     WPI; 2000-548813/50.
18
     N-PSDB; AAA47618.
5.7
FT
    Nucleic acids encoding the novel KCNQ4 potassium channel subunit,
2 T
     useful e.g. for treating tinnitus, deafness, Alpheimer's and
FΓ
     Parkinson's diseases
\star \%
₽3
    Claim 8; Page 48-51; 65pp; English.
XX
    Mutations in 3 known genes of the KCNQ branch of the potassium
     channel gene family underlie inherited cardiac arrhythmia's, neonatal
     epilepsy and in some cases associated with deafness. FCNQ4 has been
    mapped to the DFNA2 locus for autosomal dominant hearing loss, and
    a dominant negative KCNQ4 mutation that causes leafness in a 190A.
     pedigree has been identified. HOW, 4 is the first purassion module.
     gene underlying non-syndromic dearness. FML4 i ins netwilher. channels with other FCM2 channel subunits, especially FML3.
    Nucleotides encoding the KCNQ4 protein and the protein itself may be
    used in the prevention, treatment and diagnosis of diseases
    associated with inappropriate KCNQ4 expression. The nucleotides may
    also be used as DNA probes in diagnostic assays (e.g. polymerase
    chain reactions (PCR)) to detect and quantitate the presence of
00
    similar nucleic acid sequences in samples and to identify mutations
0.0
    within them, and hence which patients may be in need of restorative
    therapy. They may also be used to study the expression and function
00
    of KCNQ4 polypeptides and their role in metabolism, for example
    through the production of transgenic animals. The KCNC4 polypeptides
    may be used as antigens in the production of antibodies and to
    identify modulators (agonists and antagonists) of KCNQ4 expression
     and activity. The anti-ECNQ4 antibodies and KCNQ4 antagonists may
    also be used to down regulate KCNQ4 expression and activity. They may
    be used in this way to treat tinnitus, loss of hearing (especially
    progressive hearing loss, neonatal deafness and presbyacusis
CC
     (deafness of the elderly)) and disease or adverse conditions of the
    central nervous system (CNS) such as affective disorder, Alcheimer's
    disease, anxiety, ataxia, CNS damage caused by trauma, stroke or
    neurodegenerative illness, cognitive deficits, compulsive pensylvi,
    dementia, degression, Huntington's disease, mania, memory impairment,
    memory disorders and dysfunctions, motion disorvers, motion discretis,
    neurodegenerative diseases, Parkinson's disease, Parkinson-like mitte
    disorders, phobias, Piol's disease, psychosis, schicophienia, scinal
    cord damage, stroke and/or tremor. Conversely, antisense nucleic acid
ÓЭ
    molecules may be administered to down regulate FCNQ4 expression by
CD.
    binding with the cells cwn KCNQ4 genes and preventing their
CC
    expression.
XX
S 2
    Sequence 695 AA;
 Query Match
                          100.0%; Score 3608; DB 21; Length 695;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 695; Conservative
                                 0; Mismatches
                                                   0; Indels
        1 MAEAPPRPLGLGPPPGDAFRAELVALTAVQSEQGEAGGGGSPFRLGLLGSPLPPGAPLPG 60
ÛУ
           1 maeapprrlglgpppgdapraelvaltavqseqgeaggggsprrlgllgsplppgaplpg 60
מיב
       61 PGSGSGSACGQRSSAAHKFYRRLQNWVYNVLERPRGWAFVYHVFIFLLVFSCLVLSVLST 120
CI7
          ΩŒ
       61 pgsgsgsacggrssaahkryrrlqnwvynvlerprgwafvyhvfifllvfsclvlsvlst 1...
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Çy.
       121 IQEHQELAMECULILEFYMIYVFGLEYIVRVWSAGCCCRYRGWQGRFRFARKFFCVICFI 180
 22
       101 igehgelanecllilefymiyyfgleyiyrywsagcooryrgwggrfrfarkpfoyidfi 180
 Qу
       181 VFVASVAVIAAGTQGNIFATSALRSMRFLQILRMVRMDRRGGTWKLLGSVVYAHSFELIT 242
          CONTRACTOR STREET
 ďű
       181 vfvasvaviaagtqgnifatsalrsmrflqilrmvrmdrrggtwkllgsvvyahskelit 240
       241 AWYIGFLVLIFASFLVYLAEKDANSDFSSYADSLWWGTITLTTIGYGCKTPHTWLGFULA 🗈
 Qy.
       I41 awyigflulifasfluylaekdansdfssyadsluwgtitlttigyddbtphtwlp_{1}ul_{2} \sim
 Db
      300 AGFALLGISFFALPAGILGSGFALFVQE (HPIPHFEPPPM AANLI (AAXPLVIIIMIDA 😗
 . . .
 Ωc
      301 agfallgisffalpagilgsgfalkvægenryknfekrinpaanligaavrlystomera 30
      361 YLTATWYYYDSILPSFRELALLFEHVQRARNGGLRPLEVRBARVPIGARSKYPPVATJHF 40
 Qy
          CONTRACTOR CONTRACTOR CONTRACTOR
 D'n
      361 yltatwyyydsilpsfrelallfehvqrarngglrplevrrapvpdgapsryppwatchr 400
      421 PGSTSFCPGESSRMGIKDRIRMGSSQRRTGPSKQQLAPPTMPTSPSSEQVGEATSPTKVQ 480
 Q7
          Гb
      421\ pgstsfcpgessrmgikdrirmgssqrrtgpskqqlapptmptspsseqvgeatsptkvq\ 480
      481 KSWSFNDRTRFRASLRLKPRTSAEDAPSEEVAEEKSYQCELTVDDIMPAVKTVIRSIRIL 540
 CV
          Db
      481 kswsfndrtrfraslrlkprtsaedapseevaeeksyqceltvddimpavktvirsiril 540
 CiV
      541 KFLVAFRKFKETLRPYDVKDVIEQYSAGHLDMLGRIKSLQTRVDQIVGRGPGDRKAREKG 600
          541\ kflvakrkfketlrpydvkdvie qysaghldmlgrikslqtrvdqivgrgpgdrkarekg\ 600
 DЫ
      601 DKGPSDAEVVDEISMMGRVVKVEKQVQSIEHKLDLLLGFYSRCLRSGTSASLGAVQVPLF 660
QУ
          Dr.
      601 dkgpsdaevvdeismmgrvvkvekqvqsiehkldlllgfysrclrsgtsaslgaugupif 80.
      661 DPDITSDYHSPVDHEDISVSAQTLSISRSVSTXMD 695
Q١
      561 dpditsdyhspvdhedisvsaqtlsisrsvstnmd 698
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  TITLE OF INVENTION: Novel Human Voltage-Gated Potassium
; TITLE OF INVENTION: Channel
; FILE REFERENCE: 20430 PCT
; CURFENT APPLICATION NUMBER: PCT/US00/09587
; CURFENT FILING DATE: 2000-04-10
; PRIOR APPLICATION NUMBER: 60/129,274
; PRIOR FILING DATE: 1999-04-14
; NUMBER OF SEQ ID NOS: 43
; SCFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 4
   LENGTH: 695
   TYPE: PRT
   ORGANISM: Homo Sapiens
PCT-US00-09587-4
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 Best Local Similarity 100.0%; Pred. No. 2.4e-295;
 Matches 695; Conservative 0; Mismatches
                                            0; Indels
                                                        0; Gaps
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       1 MAEAPPFRLGLGPPPGDAPFAELVALTAVQSEQGEAGGGGSPRELGLLGSFLPPGAPLPG 60
        {\tt 1} \verb| MAEAPPFRLGLGPPPGDAPFAELVALTAVQSEQGEAGGGGSPRRLGLLGSPLPPGAPLPG| 60
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£9
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      121 IQEHQELANECLLILEFUMIVVFGLEYIVRVWSAGCCCRYPGWQGPFRFARKPFCVICFI (150
                CONTRACTOR CONTRACTOR
     121 IQEHQELANECLLILEFYMIVVFGLEYIVRVWSAGOCORYRGWQGRFRFARKPFOVIDFI 181
Db
QV
     181 VFVASVAVIAAGTQGNIFATSALRSMRFLQILRMVRMDRRGGTWKLLGSVVYAHSKELIT 140
     181 VEVASVAVIAAGTQGNIFATSALRSMRFLQILRMVRMDRRGGTWXLLGSVVYAHSKELIT 242
Dir.
Qу
     241 AWYIGFLVLIFASFLVYLAEKDANSDFSSYADSLWWGTITLTTIGYGDKTPHTWLGRVLA 300
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     241 AWYIGFLVLIFASFLVYLAEKDANSDFSSYADSLWWGTITLTTIGYGDKTPHTWLGRVLA 300
٦h
Qу
     301 AGFALLGISFFALPAGILGSGFALKVQECHRQKHFEKRRMFAANLIDAAWRLYSTDMSRA 360
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Db
     361 YLTATWYYYDSILPSFRELALLFEHVQRARMGGLHPLEURFAFUPDGAFSFYFFUATUHF 40.
QУ
          Office of the discussion of the con-
     361 FITATWYYYDSILPSFREIALLFEHWQRARMSGLFPLEUFFMEURDGAFSFEFFFEFER (#6.786.786.78
I-b
     421 FBSTSFOPGESSRMGIKDRIRMGSSQFPTGPSKLQLAPFTMFTSPSSEQVGEATSFTFVL at.
         That they confident to one
Ιb
     421 FGSTSFCPGESSRMGIKDRIRMGSSQRRTGPSKQQLAPPTMPTSPSSEQVGEATSPTKVQ 480
     481 FSWSFNLRTRFRASLRLKPRTSAEDAPSEEVAEEFSYQCELTVDDIMPAVKTVIRSIRIL 540
Су
        Γ·b
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ÇУ
     541 FFLVAKFKFKETLRPYDVKDVIEQYSAGHLDMLGFIKSLQTPVDQIVGRGPGDRKAREKG 600
         Εb
     541 KFLVAKFKFFETLRPYDVKDVIEQYSAGHLDMLGFIKSLQTFVDGIVGRGPGDRKAREKG 600
Ç·y
     601 EFGPSDAEVVDEISMMGPVVFVEFQVQSIEHFLDLLLGFYSPCLPSGTSASLGAVQVPLF 660
        Γb
     601 FEGPSDAEVVDEISMMGPVVEVEFQVQSIEHFLDLLLGFYSFCLFSGTSASLGAVOVPLF 660
Сy
     661 DFDITSDYHSPVDHEDISVSAQTLSISRSVSTNMD 695
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; Sequence 4, Application PC/TUS000958TA
; GENERAL INFORMATION:
; APPLICANT: Merck & Co., Inc.
; TITLE OF INVENTION: Novel Human Voltage-Gated Potassium
; TITLE OF INVENTION: Channel
; FILE REFERENCE: 20430 PCT
; CURFENT APPLICATION NUMBER: PCT/USD0/09587A
; CURPENT FILING DATE: 2000-06-23
; PRIOF APPLICATION NUMBER: 60/129,274
; PRICE FILING DATE: 1999-04-14
; NUMBER OF SEQ ID NOS: 43
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  ORGANISM: Homo Sapiens
PCT-US00-09587A-4
 Query Match
                     100.0%; Score 3608; DB 1; Length 695;
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Best Local Similarity 100.0%; Pred. No. 2.4e-295; Matches 695; Conservative 0; Mismatches 0; Indels 1; Page 1

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Qу	61 PGSGSGSACGQRSSAAHKRYRRLONWVYNVLERPRGWAFVYHVFIFLLVFSCLVLSVLST 12	
ďũ	1 - FEFF A COLOR FOR FEFF AND A COLOR FOR FURTHER STATES OF THE STATES O	
2 9	121 IQEHQELANEOLLILEFVMIVVFGLEYIVFVWSAGOODFYFGWLGFFFFAAFFFFAVIFF VI	
dC	101 IÇEHÇELANECLLILEFYMIYYFGLEYIYEVWSAGODOFYFGWQGFFFFAFYFF YVINEL	
 ₩.2	lel vevasvaviaasijomifatsalpomefljilemvekleegsimellosvivaas.selvi	
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ДĎ	241 AWYIGFLVLIFASFLVYLAEKDANSDFSSYADSLWWGTITLTTIGYGDKTPHTWLGFVLA 30	
Qу	301 AGFALLGISFFALPAGILGSGFALKVQEQHRQKHFEKRRMPAANLIQAAWELYSTDMSRA 36:	Э
Бр	301 AGFALLGISFFALPAGILGSGFALKVÇEQHRQKHFEF.RRMPAANLIQAAWF.LYSTDMSRA 36	Ç
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Db	361 YLTATWYYYDSILPSFPELALLFEHVQPARNGGLPPLEVRRAPVPDGAPSRYPPVATCHR 420	Э
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Db	421 PGSTSFCPGESSRMGIFDRIRMGSSQRRTGPSKQQLAPPTMPTSPSSEQVGEATSPTKVQ 480	2
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Db	481 KSWSFNDHTRFRASLRLKPRTSAEDAPSEEVAEEKSYQCELTYDDIMPHYKTYIBSIPIL 14.	
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Db	541 KFLVAKRKFKETLBPYDVKDVIEQYSAGHLDMLGRIKSLQTRVDQIVGRGFGDRWAFERG & .	
Qy	601 DKGPSDAEVVDEISMMGRVVKVEKQVQSIEHKLDLLLGFYSRCLRSGTSASLGAVQVPLF 660	
Db	601 DKGPSDAEVVDEISMMGRVVEVEKQVÇSIEHKLDLLL3FYSRCLRSGTSASLGAVÇVPLF 660	
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Db	661 DPDITSDYHSPVDHEDISVSAQTLSISRSVSTNMD 695	

09492361results

SEQ ID NO 1

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RESULT
AX 31.334
                        into account that
            20 - 2 - - 2
DEFINITION Sequence I from Patent William re.
ACCESSION
           AM032994
            AX030994.1 GI:10079897
VERSION
REYWORDS
SCURCE
            human.
 ORGANISM Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostimi;
            Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE
            1 .bases 1 to 2335;
 AUTHORS
            Jentsch, T.J.
  TITLE
            Novel potassium channels and genes encoding these potassium
            channels
            Patent: WD 0044786-A 1 03-AUG-2000;
  JOURNAL
            NEUROSEARCH AS (DK)
                     Location/Qualifiers
FEATURES
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SEQ ID NO. 1 Hybridization

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AAT95964
 10
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 \cdot \cdot \cdot
 AC
      AAT85964;
 XX
      09-JAN-1998 first entry
 ::
 MЖ
 ΞΞ
     Human K+ channel gene coding sequence.
 \mathbb{K}\mathbb{K}
     Human; neuroblastoma; K+ channel; glicma; probe; diagnosis; detection;
 EW
 EW
     tumour; ds.
 \Sigma X
 CS
     Homo sapiens.
 \lambda X
 ΕN
     JF09191882-A.
 YX
 FI
     09-301-1997.
 5.5
     lā-JAM-1996; 96JF-0004726.
 EE.
 XX
 FF.
     16-JAN-1996; 96JP-0004726.
 Х.х.
 PA.
     NISB | JAPAN TOBACCO INC.
 XX
    WPI; 1997-429182/40.
 DF
    P-PSDB; AAW14282.
 DP.
XX
PT
     INA encoding new human K+ channel protein - useful for detecting
PΤ
     glicma(s) and tumours
XX
PS
    Claim 3; Page 10-12; 14pp; Japanese.
XX
00
     This is the nucleotide sequence encoding a novel human K+ channel
CC
     protein which is expressed on human glioma cells. The gene was isolated
0.0
     from a 3' directed cDNA library prepared from human neuroblastoma cell
ОO
     line CHP134. The screen isolated a clone designated GS008740 whose
30
     insert contained the coding sequence (presented here; and the 5^{\circ} and 3^{\circ}
     sequences of the gene (AAT85965-6 respectively:. Expression of the gene
     was detected in neuroblastoma cell lines. Sligonuclestides derived from
CC
     the sequence of the K+ channel gene can be used as prices for that p_{ij} + p_{ij}
     human gliomas, and in the detection of new tumours.
     Sequence 1182 BP; 201 A; 372 C; 364 G; 145 T; U other;
  Query Match
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  Best Local Similarity 73.7%; Pred. No. 3.7e-85;
 Matches 686; Conservative
                             0; Mismatches 245; Indels 0; Gaps
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ΟV
         iraitir dichii ci irai irai irai manciana
      173 gcgcgggcggcgggggcgcgggaagcccccaagcgcaacgccttctaccgcaagctgc 232
OV.
      333 agaactgggtctacaacgtgctggagcggcccggggctgggccttcgtctaccacgtct 392
         da i Tumaniaaaa aanaa aa aanaa a
     233 agaatttcctctacaacgtgctggagcggccgcgggctgggcgttcatctaccacgcct 292
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     a cur c'unicur minchimonini cuma mari
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ΩУ
     453 accaggaacttgccaacgagtgteteeteatettggaattegtgatgategtggtttteg 811
         THE REPORT OF THE PARTY OF THE PARTY.
Db
     353 atgagaagageteggaggggeeetetahatebtggaaatbgtgantatbotggryntii 41.
Qy.
     513 gottggagtacategteegggtetggteeggeggatgetgetjeegetaergassesse .
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20
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.7
     87: agggtegetttegetttgedagaaageesttetgtgteategastteategtgtstegtug 83:
Ξb
     473 ggggggggctcaagtttgcccggaaaccdttctqtdtgattgatattgatattqttatt {\tt int}
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     \pm 33 ) bottoggtggcogtbatogboggggtabobbaggggmaabatottogbobbyt ing (x,y) , y
     Reforest chattanaatactagangcogaet mineraansa hitota meleberah tahun
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          THE PART OF THE PART BEFORE THE SAIN A
      713 toggottootttgtotoatootggootogttootggtgtacttggcagagaagggggaga 772
Ιb
Ç.A.
     873 actocyacttotoctostacgocgactogototggtgggggacgattacattgacaacca 932
                      a delicated to a feet
     773 acgaczactttgacacztacgcggatgcactctggtggggcctgatcacgctgaccacca 832
Ιb
СУ
     933 toggotatggtgacaagacacogcacacatggotgggcagggtootggotgctggcttcg 991
          I b
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     991 cottactqqqcatctcttttttqccctqcctqccqqcatcctagqctrrqqcrrqchi 1 - 1
CY
Fh
     893 | deeteateggtgtetesttisttegegetgestgnaggeatettggggtntgggtttd | 11 90
     43
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